

Listing of Claims

1. - 31. (cancelled)

32. (amended) A vibratory separator for separating components of material introduced thereto, the vibratory separator comprising

a basket

a collection receptacle beneath the basket,

a deck on the basket for mounting a screen assembly thereon, the deck having a plurality of deck pins projecting upwardly therefrom,

a screen assembly on the deck, the screen assembly comprising screening material,

the screening material having a plurality of screening openings therethrough suitable for the flow of fluid therethrough, the fluid from the material introduced into the basket,

the screening material having a plurality of spaced apart screen pin holes therethrough, each screen pin hole having therein part of one of the deck pins,

vibratory apparatus connected to the vibratory separator for vibrating the screen assembly,

holding apparatus for holding the screen assembly on the deck with a part of a deck pin in each screen pin hole,

two side ledges on spaced-apart sides of the basket, the side ledges positioned for supporting spaced-apart sides of the screen assembly,

each side ledge having an upper surface inclined downwardly from a basket side toward an interior of the basket,

each deck pin projecting upwardly from one of the side ledges, and the screen assembly having two spaced-apart edges each having screening assembly pin holes therethrough, each of said edges of the screen assembly resting on one of said upper surfaces,

the holding apparatus including two spaced-apart rails, each rail positioned movably above one of the two side ledges, each rail selectively

movable downwardly to abut an edge of the screen assembly and to push said edge against the upper surface of said side ledge thereby bending said screen assembly so that said edges assume an inclination corresponding to the inclined upper surface of said corresponding side ledge,

selectively movable apparatus for moving the rails downwardly against said edges, and

each rail having a plurality of rail holes therein, each rail hole located and configured for receiving a portion of a deck pin when the rail abuts the screen assembly, said deck pin also passing through an edge of the screen assembly.

33. (previously presented) The vibratory separator of claim 32 wherein the screening material comprises a plurality of layers of screen mesh.

34. (previously presented) The vibratory separator of claim 32 wherein the vibratory separator is a shale shaker and the material includes drilling fluid with drilled cuttings entrained therein.

35. (previously presented) The vibratory separator of claim 32 wherein the deck includes curved support for the screen assembly and the rails hold edges of the screen assembly against the side ledges so that the screen assembly is held in a crowned shape on said curved support.

36. (previously presented) The vibratory separator of claim 35 further comprising

the holding apparatus including two spaced-apart rails, one rail on each of two spaced-apart sides of the basket, each rail movable downwardly to abut an edge of the screen assembly, and

movement apparatus connected to the basket for selectively moving the rails down to abut the screen assembly.

37. (previously presented) The vibratory separator of claim 36 further comprising

power apparatus connected to the movement apparatus for powering the movement apparatus for powered movement of the rails.

38. (previously presented) The vibratory separator of claim 37 further comprising

the power apparatus including a plurality of selectively movable piston apparatuses above each rail, each selectively movable piston apparatus including a movable piston with a lower end releasably connected to a corresponding rail.

39. (previously presented) The vibratory separator of claim 32 further comprising

manually operable apparatus for selectively moving the rails.

40. (previously presented) The vibratory separator of claim 37 wherein the power apparatus is fluid powered by fluid under pressure.

41. (previously presented) The vibratory separator of claim 32 wherein the deck pins are inclined toward an interior of the basket, each side rail pushing down on an edge of the screen assembly thereby tensioning the screening material.

42. (previously presented) The vibratory separator of claim 32 further comprising

a bladder system with inflatable bladder apparatus for pushing down on spaced-apart edges of the screen assembly to hold the screen assembly on the deck.

43. (previously presented) The vibratory separator of claim 42 wherein the bladder apparatus directly contacts a top surface of the screening material providing a seal between an interface of a lower surface of the bladder apparatus and the top surface of the screening material.

44. (previously presented) The vibratory separator of claim 32 wherein the two spaced-apart rails seal against a top surface of the screening material.

45. (previously presented) A holding system for holding a screen assembly on a deck of a vibratory separator, the vibratory separator having two spaced-apart sides between which the screen assembly is held, the deck including two side supports for supporting two spaced-apart sides of the screen assembly, each side support having an upper surface inclined downwardly from its respective vibratory separator side toward an interior of the vibratory separator, the holding system comprising

two spaced-apart rails, each rail located on a side of the vibratory separator above an upper inclined surface of a corresponding side support,

each rail selectively movable downwardly to hold an edge of the screen assembly against an upper inclined surface of a side support thereby inclining said edge to assume an inclination corresponding to the upper inclined surface,

each of said rails having holes and each side support has a plurality of pins spaced-apart thereon and projecting upwardly therefrom from said upper surface, said pins for projection through said screen assembly and into said holes of said rails.

46. (previously presented) The holding apparatus of claim 45 wherein the rails hold the screen assembly in sealing contact with the deck.

47. (previously presented) The holding apparatus of claim 45 wherein the screen assembly comprises screening material and downward force of the rails tensions the screening material of the screen assembly.

48. (cancelled).

49. (cancelled).

50. (amended) A vibratory separator for separating components of material introduced thereto, the vibratory separator comprising

a basket,

a collection receptacle beneath the basket,

a deck on the basket for mounting a screen assembly thereon, the deck having a plurality of deck pins projecting upwardly therefrom,

a screen assembly on the deck, the screen assembly comprising screening material,

the screening material having a plurality of screening openings therethrough suitable for the flow of fluid therethrough, the fluid from the material introduced into the basket,

the screening material having a plurality of spaced apart screen pin holes therethrough, each screen pin hole having therein part of one of the deck pins,

vibratory apparatus connected to the vibratory separator for vibrating the screen assembly,

holding apparatus for holding the screen assembly on the deck with a part of a deck pin in each screen pin hole, the holding apparatus including two spaced-apart rails, each rail positioned movably above the screen assembly, each rail selectively movable downwardly to abut an edge of the screen assembly,

each rail having a plurality of rail holes therein, each rail hole located and configured for receiving a portion of a deck pin when the rail abuts the screen assembly, said deck pin also passing through an edge of the screen assembly, and

selectively movable apparatus for moving the rails downwardly against the screen assembly.

51. (previously presented) The vibratory separator of claim 50 wherein the screening material comprises a plurality of layers of screen mesh.

52. (previously presented) The vibratory separator of claim 50 wherein the vibratory separator is a shale shaker and the material includes drilling fluid with drilled cuttings entrained therein.

53. (previously presented) A holding system for holding a screen assembly on a deck of a vibratory separator, the vibratory separator having two spaced-apart sides between which the screen assembly is held, the deck including two side supports for supporting two spaced-apart sides of the screen assembly, the holding system comprising

two spaced-apart rails, each rail located on a side of the vibratory separator above a corresponding side support,

each rail selectively movable downwardly to hold an edge of the screen assembly against a side support,

each of said rails having holes, and

each side support having a plurality of pins spaced-apart thereon and projecting upwardly therefrom, said pins for projection through said screen